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ABSTRACT

Explanations of a marine mammal rescue program and information on seals and sea lions are presented in this curriculum package for intermediate grade teachers. Activities are highlighted which focus on the natural history of harbor seals. This unit contains: (1) pre-trip activities (including fact sheets and worksheets on the different types of seals, a vocabulary list, and a description of the differences between seals and sea lions); (2) trip activities (offering suggestions for successful field trips, a floor plan of the aquarium, and observation recording sheets for use at the aquarium's Seal Pool); and (3) post-trip activities (providing an explanation of the New England Aquarium's research and seal rescue programs). A bibliographic listing of publications and an evaluation checklist for teachers are also included. (ML)

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Seals

Grades 3-6

ED264125

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for teachers

For many students, a visit to the Aquarium is brief and often there are so many exciting things to see but not enough time to see them. This packet is designed to help you prepare your students for a visit to the New England Aquarium, have a successful field trip, and extend the learning process afterwards with follow-up activities in the classroom.

This particular curriculum will focus on the natural history of harbor seals. In this packet you will find:

- information for teachers
- classroom activities and topics for discussion to be used before your trip
- a floor plan of the building and helpful hints for planning a field trip
- field trip activities and worksheets
- follow-up activities for the classroom
- a bibliography

The school program SEALS will emphasize ways seals and sea lions are adapted to their watery world, and give students more information on the New England Aquarium's marine mammal rescue program. This program is available by reservation only through the Sales Office, 742-8830, ext. 221.

We hope this curriculum will enhance your visit to the New England Aquarium. An evaluation form is enclosed for your comments. Please tell us if these materials meet your needs and/or how we can work to improve our services to educators.

If you have any questions about this curriculum, or any other Education Department offerings, please feel free to call or write us for more information.

Enjoy your visit,

Liz Tayntor

Liz Tayntor
Coordinator,
Education Programs

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teacher resources

We have found that educators want more information about Aquarium exhibits, special programs and curriculum materials to prepare for a visit and extend field trip experiences into the classroom. The Education Department offers these services to teachers:

program-related curriculum materials mailed upon request with your field trip confirmation

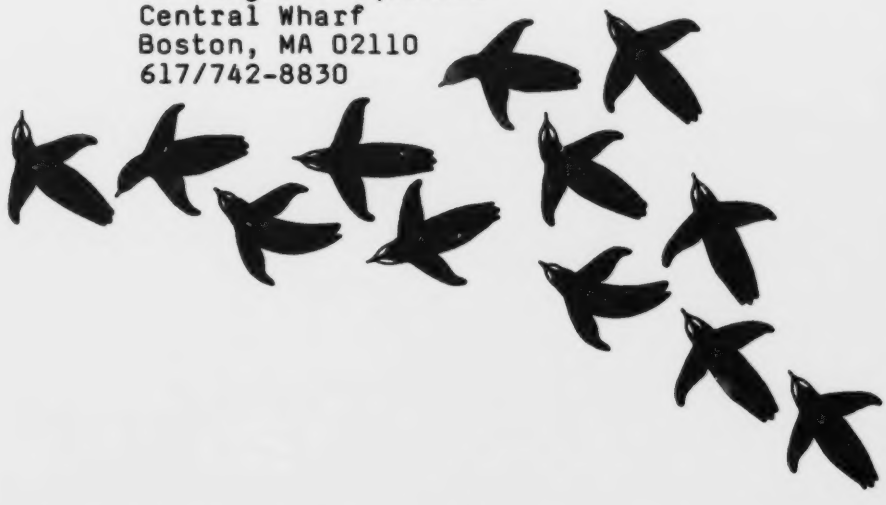
a free on-site visit to study the building before visiting with a group

consultations with education staff on curriculum materials and aquatic topics

teacher workshops on a variety of subjects, including: tidepools, dolphins and seals, fish biology, ecology and animal adaptations. For dates and times, contact the Education Department; fees vary.

Please call us for more information:

THE EDUCATION DEPARTMENT
New England Aquarium
Central Wharf
Boston, MA 02110
617/742-8830



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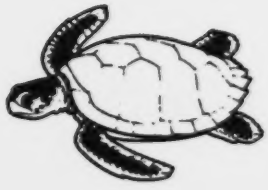
traveling slide program

Enter the world of water through a set of colorful slides from the New England Aquarium. "Introduction to the New England Aquarium" is a slide show which gives students and teachers a close look at the many fascinating sea creatures living in the Aquarium's exhibits.

The slides and accompanying script highlight the many ways marine animals have adapted to their water environment - how coloration, body shape, and specialized behaviors help them to survive.

"Introduction to the New England Aquarium" is available to organized groups for a two-week FREE loan period. The slides can be sent C.O.D., or picked up at the Aquarium. Users are responsible for returning the slide set at the end of the loan period.



If you would like to use "Introduction to the New England Aquarium" for your group, please call: Cindy Richardson, 742-8830, ext. 243.

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curriculum materials

To help you plan a field trip to the New England Aquarium, the Education Department has developed a series of curriculum packets. These units focus on popular Aquarium exhibits and enhance our daily school programs. Each curriculum packet includes: 1) information to prepare your students for a visit to the New England Aquarium, 2) suggestions for planning a successful field trip, and 3) follow-up activities for the classroom.

Aquarium Exploration Kit, grades K-2	_____	$3.00 each
Tidepools: Edge of the Sea, grades K-6	_____	$3.00 each
Tidepool Information Sheets, grades 2-8 (set of eight fact sheets with illustrations for classroom study)	_____	$1.50 per set (10 or more, $1 per set)
Seals, grades 3-6	_____	$3.00 each
Aquarium Resource Kit, grades 6-8	_____	$3.00 each
Fish: Form and Function, grades 6-12	_____	$3.00 each
Whales of New England, grades 6-12	_____	$3.00 each
Self-guided Tour of the Aquarium, high schools and universities (includes Teacher's Guide)	_____	$3.00 each
	_____	TOTAL

To order curriculum, send your name, address and name of school to:

New England Aquarium
Central Wharf
Boston, MA 02110
Attn: Education/Curriculum

Please include payment with your order. All checks should be made payable to the New England Aquarium. Please allow two weeks for delivery.

For more information on this and other Education Department programs, please feel free to call (617) 742-8830, ext. 254, or write to us.

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evaluation 1

As a teacher, your comments on our curriculum and school programs are very valuable. Will you please take a few minutes to complete this questionnaire? This information will help us to evaluate our current offerings and develop new education materials. Thank you!

Teacher _____ Date _____

School _____ Grade _____

Address _____

_____

Curriculum Title SEALS

- How did you obtain this curriculum?

  _____ with program confirmation _____ workshop

  _____ special request _____ other

- How did you use these materials?

  _____ To prepare myself for a field trip to the Aquarium

  _____ To prepare my students for a field trip

  _____ In a unit on ocean life

  _____ Did not use

- Was the level appropriate for your students?

  _____ yes _____ too difficult _____ too easy

- Did you use any of the suggested activities/worksheets in this packet?

  _____ yes _____ no

- If yes, which ones?

  _____ pre-visit _____ field trip _____ post-trip

  Were these activities valuable? _____ Yes _____ no

  How did you use them?

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evaluation 2

■ Did you visit the Aquarium with your class? _____ yes _____ no

If yes, what program(s) did you attend?

_____ dolphin and seal lion show

_____ school program title: SEALS

_____ giant ocean tank feeding

_____ tidepool exhibit

_____ animal interview

_____ other:

■ Did you find these programs valuable for your students?

_____ yes _____ no Please comment further:

■ Do you feel that these curriculum materials prepared you and your students for a field trip to the Aquarium? ____ yes ____ no

If yes, how did this preparation affect the overall quality of your visit?

■ Do you have any additional comments or suggestions for education programs, curriculum, or other services that would enhance your students' educational experience at the New England Aquarium?

■ Did you receive a 1983-84 school field trips brochure? ___yes ___no

Please send me information on future education offerings .....

_____ yes

Thank you!

Education Department

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1

pre-trip activities

harbor seals 1

One of the most familiar seals in New England is the harbor seal. As its name suggests, the harbor seal is found along the coast in harbors and bays, around small islands, and at the mouth of rivers that empty into the sea. In winter months, harbor seals are seen on Cape Cod and in other areas along the coast of Massachusetts. During the summer, they move to the rocky coasts of Maine, New Hampshire, and further north.

Harbor seals are marine mammals. Like land mammals, seals are warm-blooded, breathe air with lungs, and give birth to live young. Unlike land mammals, harbor seals are at home in the sea. They spend equal amounts of time on the land and in the water.

Harbor seals are good swimmers. Their streamlined, torpedo-shaped bodies move smoothly through the water, pushed forward by side-to-side thrusts of the large rear flippers. The smaller front flippers are held close to the seal's body as it swims. Seals use their front flippers to brake and steer.

In bursts of speed, harbor seals may swim 15 miles per hour. They can also change direction very quickly. This is how they escape enemies like sharks and killer whales.

Out of water, harbor seals are slow and awkward. Unlike sea lions, harbor seals cannot walk on land. Instead they must wriggle from place to place. When disturbed, they retreat to the safety of the sea.

At low tide, harbor seals are seen resting on rocky ledges and sandbars along the shore. Their gray and black spotted coats act as camouflage on seaweed covered rocks. In the cold winter months, this fur and a thick layer of blubber keep the seals warm.

When the tide is high, harbor seals move into the ocean to feed on fish and squid. Their large eyes and excellent vision help them find prey in murky New England waters. Harbor seals have sharp pointed teeth that are perfect for grasping and tearing, but they do not chew their food. It is swallowed whole. Adult harbor seals grow to be 4-6 feet long and weight 200-250 pounds. Full-grown seals will eat 15-20 pounds of fish each day.

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harbor seals 2

Harbor seals belong to a family of seals known as "true seals" or "earless seals". They are called "earless seals" because they do not have an ear flap that covers their ear as sea lions do. Instead, only a small opening can be seen on the outside of the seal's head. When a harbor seal dives, its ears close automatically to shut out water, but not sounds. Seals hear well both above and below the water.

When a harbor seal comes to the surface, it must open its nostrils to breathe. At all other times, the seal's nose is closed. This works like a built-in nose plug while the seal is in the water. Seals can hold their breath for a long time. An active seal will take a breath every 5-7 minutes. Most people can hold their breath only 60 seconds.

During late May and early June, female harbor seals come ashore to give birth. Usually one pup is born; twins are rare. Although they are usually born on the land, harbor seal pups can swim immediately. Mother seals keep a careful watch over their pups. If danger approaches, both move to the safety of the water.

Newborn harbor seals are 32 inches long and weigh 20 pounds. They nurse on the rich milk of their mothers and grow quickly. In just three weeks, the young seals may double their weight. At this time they must learn to feed on their own. Soon they are hunting with the adult for crabs, fish and squid. Healthy harbor seals may live 30 years or more.

The history of man and the harbor seal in Massachusetts has sometimes been an unhappy tale. At one time a bounty of five dollars was offered for dead harbor seals because fishermen thought the seals were eating too many fish. Today, harbor seals and all other marine mammals are protected by a law called the Marine Mammal Protection Act. This law was passed in 1972, and prevents people from killing, capturing or injuring any marine mammal.

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fact sheet: harbor seals

Name:_____ Date:_____

Read the information sheet on harbor seals. Then write what you have learned on this fact sheet.

Scientific name: Phoca vitulina concolor

Where to find them:

Color:

Size: Adults _____ feet _____ pounds

Pups _____ inches _____ pounds

Speed: maximum _____ miles per hour

Foods:

Predators:

Age: _____ years or more

Notes on behavior:

_____

_____

_____

_____

_____

_____

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other seals 1

Elephant Seal

The elephant seal is the largest of the "true seals". A large male may be 20 feet long and weigh more than four tons. The name elephant seal comes from the long, fleshy, trunk-like snout of the males. During mating season, elephant seal bulls fight for territories. Each winner will have a harem of many females.

Leopard Seal

The leopard seal lives in the cold icy waters of the Antarctic. It is a fierce predator with very sharp teeth and strong jaws. Leopard seals eat fish, squid, and krill. Some have become specialized to hunt penguins. The name leopard seal comes from the animal's spotted coat.

Weddell Seal

The deep diver among the seals is the Weddell seal. This seal makes dives to 1900 feet below Antarctic pack ice. At the surface, Weddell seals use their teeth to chew away ice from their breathing holes as they freeze over. On a shallow dive, the Weddell seal can stay underwater for one hour.

Ringed Seal

Ringed seals live on the ice packs of the Arctic Sea. When female ringed seals are ready to give birth, they build a snow cave on the ice. The only entrance to the cave is underwater. The newborn pups spend the first week of their lives in the protection of the snow cave.

Gray Seal

Gray seals are common in the British Isles. Fisherfolk in the coastal villages of Ireland and Scotland call gray seals selchies, "people of the sea". Many Irish and Scottish legends portray the selchies as magical creatures able to cast off their seal skins to become human and walk upon the land.

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other seals 2

Gray seals are also found along the coast of northern New England. Although they resemble harbor seals, the gray seal's head is much longer and flatter. Gray seals are also larger than harbor seals. An adult male may be 10 feet long and weigh over 600 pounds.

Crabeater Seal

This Antarctic seal has very unusual teeth. Scientists once thought that the sharp rows of points on the teeth were for crushing the hard shells of crabs. Instead, it was discovered that the pronged teeth were for straining krill, a small shrimp-like animal. When the crabeater seal feeds, it gulps a large mouthful of water and krill. The water is forced out through spaces in the seal's teeth, while the food is held inside the mouth and swallowed.

Hawaiian Monk Seal

Though most seals live in cold waters, the Hawaiian monk seal is an exception. These seals once inhabited all of the Hawaiian Islands; but today, they are found only on isolated atolls not inhabited by man. During the 1800's, the Hawaiian monk seal was hunted for its skin and oil. Today, it is protected by law, but fewer than 1,000 individuals remain. The Hawaiian monk seal is a seriously endangered species, and scientists fear that this peaceful seal may soon become extinct due to the continued presence of man in breeding and pupping areas.

Harp Seal

Harp seals are probably the best known Arctic seals because every year people protest the hunting of harp seal pups. The newborn seals are called "whitecoats", and it is the soft, white fur of the pups that is valuable to hunters. When harp seals are three weeks old, the white fur is shed and replaced by a darker adult coat. Harp seal pups grow very quickly as they nurse on the rich milk of their mothers. Although they weigh only 20-30 pounds at birth, the pups may weigh 100 pounds by the time the white coat is shed.

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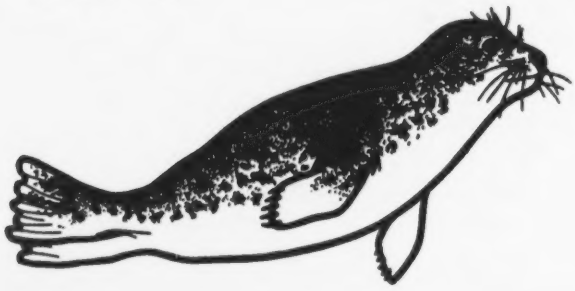
seal or sea lion?

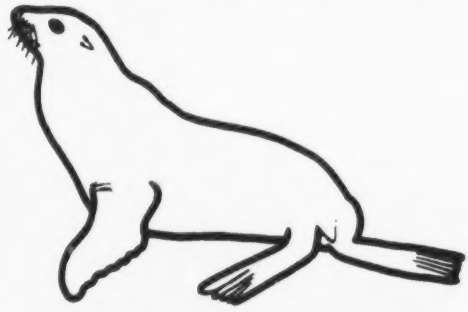
California sea lions and harbor seals both belong to a group of marine mammals called pinnipeds. Pinnipeds share many characteristics but there are several differences between seals and sea lions to look for.

HARBOR SEAL



- Harbor seals are called "true seals" or "earless seals". They do not have external ears. A small opening marks the location of the ears on the side of the seal's head.
- Harbor seals swim with their large rear flippers. Their front flippers are used for steering and braking.
- Harbor seals cannot walk on land with their flippers. Out of water, they are wrigglers.

CALIFORNIA SEA LION



- Sea lions are called "eared seals". Their ears are protected by small ear flaps visible on the outside of their head.
- Sea lions use their front flippers to swim. Their rear flippers are for steering.
- Sea lions walk easily on land by turning their front flippers forward.

■**** Can you observe other ****■
differences between
these pinnipeds?

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fact sheet: Hoover

BIRTHDATE: Spring, 1971

SEX: Male

WEIGHT: 200+ pounds

HISTORY: Hoover is an orphan. He was rescued off the Maine coast as a pup by Mr. and Mrs. George Swallow. He spent his first three weeks in a bathtub before he was adopted by the New England Aquarium. Hoover has been at the Aquarium since 1971.

"TALKING" HISTORY: Hoover mimics human sounds. He adopted this behavior on his own. He first began making sounds in 1974 at three years of age. His vocalizations began to resemble "talking" about five years ago. The volunteers and staff who work daily with Hoover have encouraged him to repeat his vocalizations.

PRECEDENCE: There is none. Zoologists believe that Hoover is the first non-human mammal to successfully mimic man's voice. Gibbons and elephant seals have been reported to mimic each other but never the human voice.

VOCABULARY: Limited but remarkable; includes: "Hoover", "How are you?", "Hey", and "Get out of there". Hoover's voice is guttural but clearly a distinct bass. Also, Hoover frequently emits a very distinct "laugh".

RESEARCH: Current research is underway in an attempt to understand this extraordinary scientific phenomenon. Literature search is anecdotal. High quality tape recordings are being analyzed and will be compared with the human voice model in the same manner used for voice prints.

DIET: Herring - 12 to 18 pounds daily.

GENERAL INFORMATION: Harbor seals Phoca vitulina are native to the New England area, their normal range being from Canada to New Jersey, although they have been known to travel as far south as Florida. They weigh about 20 pounds at birth and reach weights in excess of 250 pounds. They reach maturity around five years of age; life expectancy is approximately 30 years.

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vocabulary

atolls	coral islands
behavior	the way an animal acts
bounty	reward
bulls	adult male seals
camouflage	coloration that helps to hide an animal in its natural surroundings
earless seals	a family of seals with no external ears; harbor seals are earless seals
harem	a group of females associated with one male
krill	a small shrimp-like animal
marine mammal	a mammal that is adapted to live in the sea
pinnipeds	a group of fin-footed marine mammals that includes the true seals, the sea lions and the walrus
predator	an animal that hunts another animal for food
prey	an animal hunted by another animal for food
pups	baby seals
territory	an area that an animal defends
true seals	also called earless seals; these seals swim with their hind flippers and do not walk on the land - they are wrigglers

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worksheet: seals

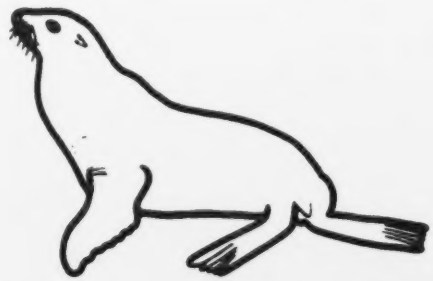
Name: _____ Date: _____

Match the names of the seals below with the facts about them.

___ 1.	Leopard Seal	a. Lives in Hawaii
___ 2.	Sea Lion	b. Females build snow caves
___ 3.	Weddell Seal	c. Pups called "whitecoats" are killed by hunters
___ 4.	Harp Seal	d. An "eared seal"
___ 5.	Monk Seal	e. Uses its teeth to strain food from the water
___ 6.	Elephant Seal	f. Males have a long fleshy snout
___ 7.	Crabeater Seal	g. Feeds on penguins
___ 8.	Ringed Seal	h. Dives to over 1900 feet
___ 9.	Harbor Seal	i. A New England seal

Seal or Sea Lion?

Read the five facts listed below.
If the statement is true for Harbor Seals, write HS next to it. If it is true for Sea Lions, write SL. If it is true for both, write B.



1. This mammal is a good swimmer. _____
2. This mammal can walk on land using its flippers. _____
3. This mammal wriggles on land. _____
4. This mammal has small ear flaps on the sides of its head. _____
5. This mammal has ears and hears very well. _____

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worksheet: seals answers

Name: _____ Date: _____

Match the names of the seals below with the facts about them.

G	1. Leopard Seal	a. Lives in Hawaii
D	2. Sea Lion	b. Females build snow caves
H	3. Weddell Seal	c. Pups called "whitecoats" are killed by hunters
C	4. Harp Seal	d. An "eared seal"
A	5. Monk Seal	e. Uses its teeth to strain food from the water
F	6. Elephant Seal	f. Males have a long fleshy snout
E	7. Crabeater Seal	g. Feeds on penguins
B	8. Ringed Seal	h. Dives to over 1900 feet
I	9. Harbor Seal	i. A New England seal

Seal or Sea Lion?

Read the five facts listed below.
If the statement is true for Harbor Seals, write HS next to it. If it is true for Sea Lions, write SL. If it is true for both, write B.

1. This mammal is a good swimmer. B
2. This mammal can walk on land using its flippers. SL
3. This mammal wriggles on land. HS
4. This mammal has small ear flaps on the sides of its head. SL
5. This mammal has ears and hears very well. B

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2

trip activities

for teachers

A unique look at "the world of water" awaits your students when they visit the New England Aquarium. To help your trip run smoothly, keep in mind the following:

- Be sure your students are adequately supervised. One chaperone is admitted FREE for every 10 students.
- Remember the Aquarium's exhibit galleries are dimly lit, giving the illusion of entering an underwater world. The exhibit tanks themselves are well-lit.
- Students will receive handstamps as they enter. These will allow them to attend the dolphin and sea lion show, and re-enter the main building.
- School programs, like SEALS, take place in the auditorium on the first level of the building. Your group will be paged to the auditorium 10 minutes before the show is scheduled to begin. Please arrive on time.
- The dolphin and sea lion show is held on the ship DISCOVERY. To get to the DISCOVERY, you must exit thru the front doors of the main building. Doors open 15 minutes before show-time.

- The "Edge of the Sea"/Children's Tidepool exhibit is on the third level of the building. Here students will have the opportunity to pick up live seashore animals. Aquarium staff will be available to answer questions. Please remind students that live animals must be handled with care.
- Aquarium volunteers, wearing blue smocks, are available throughout the building to answer your questions and talk with your students.
- If possible, try to schedule your visit during the FALL or WINTER months. Springtime is the school field trip season and your students may be sharing the exhibit areas with many other children during this time. The extra noise and confusion may make learning more difficult for your group.
- And finally, it is important to remember that a trip to the Aquarium can be a very exciting adventure in itself - and it is often easy to over-stimulate and tire children in the galleries. Try not to overload your visit. Instead, spend time at one or two galleries or exhibits, or have students focus on just a few of the animals.

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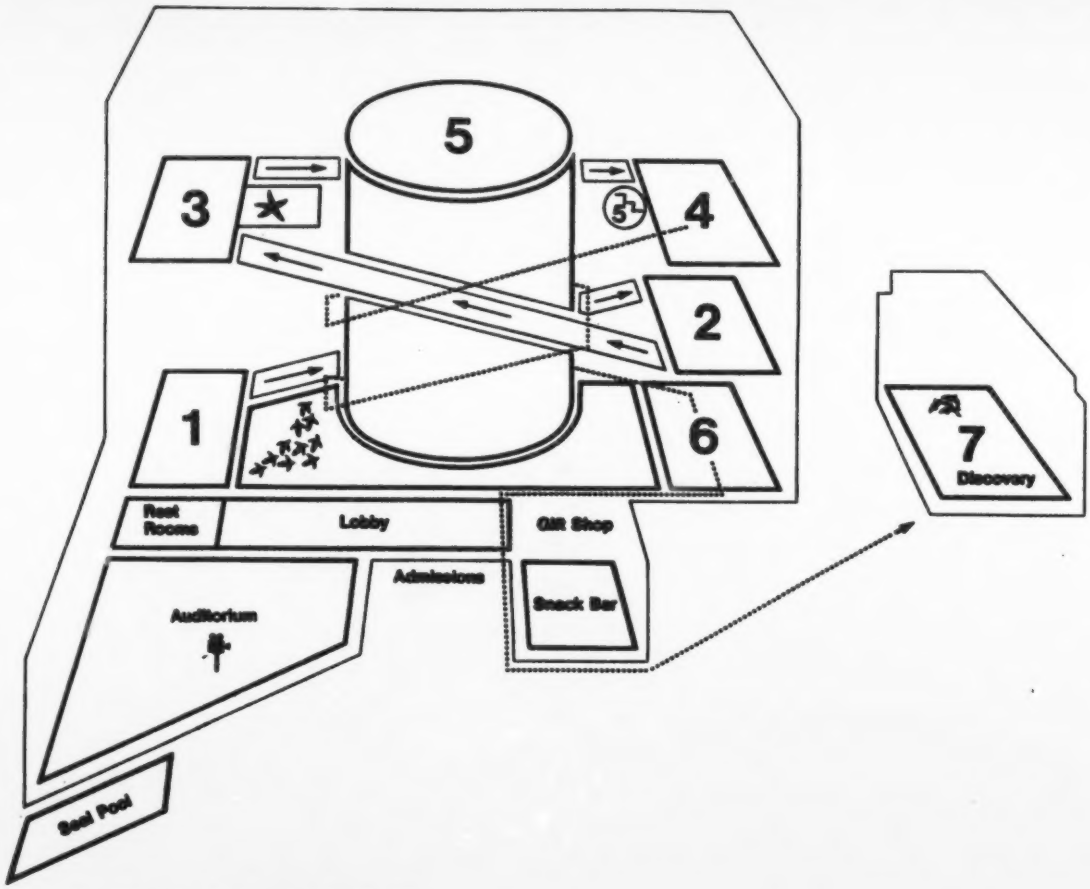
New England Aquarium



1 Special Exhibit
2 Temperate Marine Gallery
3 Freshwater "Edge of the Sea" / Tidepool
4 Northern Waters of the World / Harrington Gallery
5 Top of the Giant Ocean Tank / (5) Stairs
6 Tropical Marine Gallery
7 Discovery / Marine Mammal Show

NOTE:
To all the exhibits in the main building follow a one-way route along straight ramps to the top of the building and descend to the first floor along the spiral ramp of the Giant Ocean Tank.

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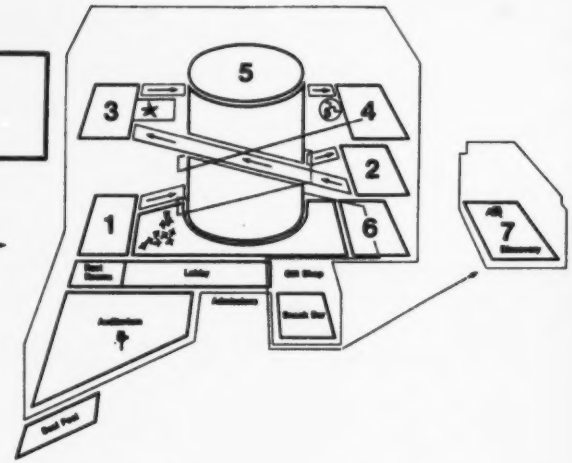
New England Aquarium

Use this floor plan to locate specific exhibits on each gallery. ⟶



Labels above the exhibit tanks identify the animals and plants within each display.

2 Temperate Marine Gallery

Blue Hole	Coloration	Fish Shapes	Boston Harbor Past & Present	Charles River Basin	Mariculture	Mediterranean Fishes	Schooling	Saltmarsh	Mangrove Swamp

3 Freshwater Gallery

Electric Eel	Trout Stream	Rift Lake Cichlids	Amazon River Community	Freshwater Pond	South American Exotics	Asian Fishes	Primitive Fishes	Piranha	Atlantic Salmon	Rheotaxis

4 Northern Waters of the World / Harrington Gallery

Harborview Room	West Coast Tidepool	Gloucester Breakwater	Georges Bank	Isles Of Shoals	Eastport Harbor	Giant Lobster	Deep - Sea Dwellers	Bottom Dwellers	Octopus	Pacific Northwest

6 Tropical Marine Gallery

Otters	Flashlight Fishes	Animal Partners	Living Coral Reef	Twilight Dwellers	Pacific Coral Reef	Spiny Lobsters	Armored Fishes	Tropical Atlantic Fishes	Pacific Reef

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worksheet: seal watch 1

Name: _____ Date: _____

1. Visit the SEAL POOL at the New England Aquarium.
   What kind(s) of seals live here?

2. Choose one seal and watch it for a few minutes.
   What is this seal doing?

_____ swimming	_____ jumping	_____ blowing bubbles
_____ sleeping	_____ eating	_____ splashing
_____ sunbathing	_____ playing	_____ talking

3. Choose another seal.
   Can you find its ears?

   ___ yes ___ no

   If yes, make an X on the drawing to show where the ears are located.

4. Watch the nose of the seal as it comes to the surface to breathe.
   What happens to the nostrils as it takes a breath?

5. How long can a seal hold its breath? Watch a seal as it dives.
   When its nose is under the water, start counting slowly (one-one thousand, two-one thousand, etc.).

   STOP counting when the seal comes up for air. How many seconds was it underwater?

_____ less than 30 seconds	_____ 30-60 seconds	_____ more than 60 seconds

   How long can you hold your breath?

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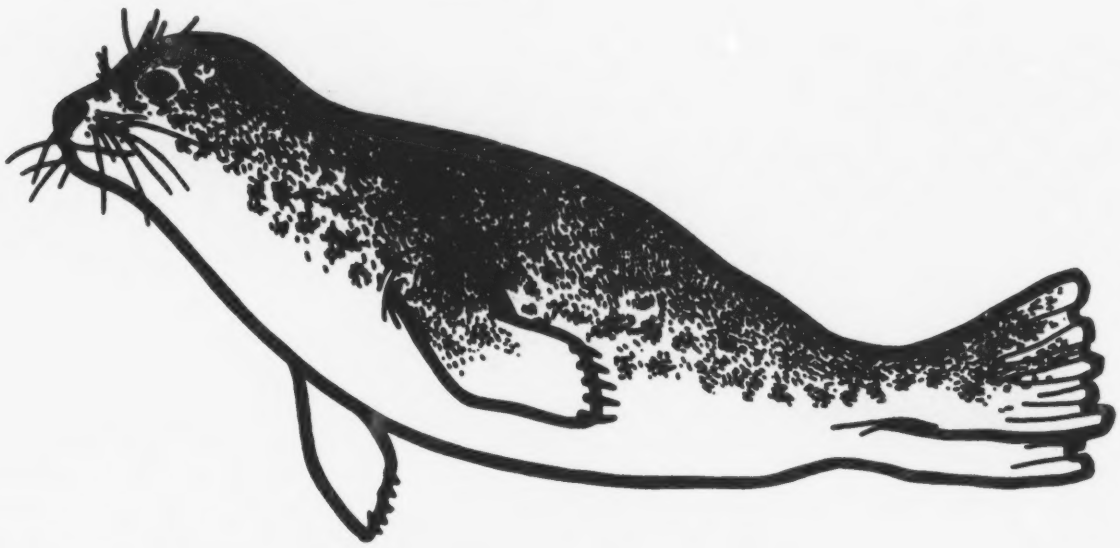
worksheet: seal watch 2



6. Look for a seal that is swimming.
   What flippers does it use to move in the water?

   front flippers _____ rear flippers _____ both _____

   Circle the flippers it swims with on the large drawing.

7. Harbor seals are very good swimmers, but they are slow and awkward on land.
   Can you find a seal moving on the platform? What other animals does it remind you of as it wriggles along?

****** SPECIAL FEATURE ******

While you are visiting the SEAL POOL at the New England Aquarium, keep your ears open. You may hear Hoover, "the talking seal", say "Hello, there!" to you. Hoover is one of the largest seals in the pool.

Now that you have taken a close look at the harbor seals, be sure to look for other marine mammals (mammals that live in the sea) as you visit the MAIN BUILDING and the DISCOVERY. What other marine mammals live at the New England Aquarium?

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my aquarium sketch

name of aquarium exhibit _____
animals & plants _____

name of artist: _____

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3

post-trip activities

activities

Mural

Many species of seals live in Antarctic waters. Have students research the animal and plant life of the Antarctic and create a mural depicting the variety of life found in the southern ocean. Be sure to include animals living both above and below the ice; and small creatures like krill, as well as giants such as the blue whale.

Legends

In the folklore of many countries that border the sea, seals are prominent characters. Have students read Rudyard Kipling's short story, "The White Seal", or The Mermaid's Cape, a re-telling of the Irish legend of the selchies, or seal-people. Then encourage the class to write legends of their own, such as "How the Leopard Seal Got Its Spots" or "Why the Elephant Seal Has a Trunk".

Research

Have students research the natural history of seals from around the world and write short reports. Compile the research in a "Book of Seals" for all to share.

Seal Rescue

Each year several species of marine mammals are stranded on New England Shores, and institutions like the New England Aquarium attempt to rescue them. Using the enclosed poster, discuss with students how they should react in a stranding situation; then have them develop a mock rescue station as outlined in the activity sheet "Seal Rescue"

Important Note: Under the provisions of the Marine Mammal Protection Act of 1972, it is not legal for an individual to attempt a marine mammal rescue, even in good faith. If a real stranding were encountered, proper action would be to contact an institution like the New England Aquarium, that is authorized to rescue marine mammals.

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beached & stranded whales

dolphins & seals need your HELP!

Aim of Rescue & Recovery

The aim of the New England Aquarium research project is to rescue live marine mammals and to recover dead specimens in order to obtain valuable information.

Please Call

We need your help!
If you find a stranded or beached marine mammal please call one of the following agencies:

1. New England Aquarium; (617) 742–8834

2. Your local National Marine Fisheries Service

3. Your local U. S. Coast Guard Station

4. Scientific Event Alert Network (SEAN); (202) 381–4174

Information Needed

To aid a rescue, try to determine the following information:

1. Identification & description (size, color, presence of fur? baleen?)

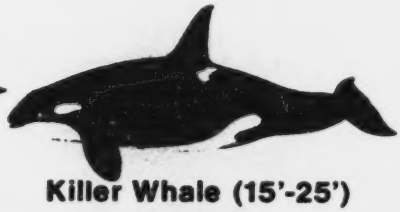
2. Number of animals involved

3. Condition of animal (live, dead, injured?)

4. Location & directions to get there

5. Names & telephone numbers of people involved

Pilot Whale (15'-20')



Killer Whale (15'-25')

Common Dolphin (6'-8')

Sperm Whale (35'-60')

Harbor Porpoise (4'-6')

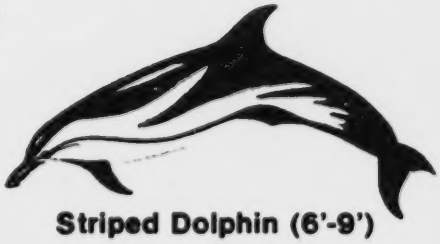
Right Whale (35'-50')

White Sided Dolphin (7'-9')

Humpback Whale (30'-55')

Harbor Seal (4'-6')

Minke Whale (15'-25')



Striped Dolphin (6'-9')

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seal rescue 1

At the New England Aquarium there is a program to rescue orphaned seal pups that have been abandoned or separated from their mothers. When they arrive at the Aquarium, many of the young seals are sick and starving. They are cared for around the clock, and thanks to this program, some survive. The rescued pups may become part of the harbor seal colony at the New England Aquarium, others are released to lead natural lives in the wild.

Caring for harbor seal pups can be hard work. Each pup needs 200 ml (a bottle full) of formula every four hours, day and night. Their cages must be kept clean. Records must be kept of their feedings and behavior.

Imagine that you are a member of the seal rescue team at the new England Aquarium. At this time, there are two seal pups under your care. At 6:00 a.m. a call comes in to report a stranded seal pup at Pemaquid Point in Maine. Someone is sent in the Aquarium van to pick up the stranded seal.

As a rescue team you must do the following things before the new seal pup arrives:

1) Determine how many people and what equipment is needed to care for all three orphaned pups.

2) Plan a schedule for your workers.

Remember, you will need people to feed the pups and record their behavior around the clock.

■ SAMPLE FEEDING SCHEDULE FOR 24 HOURS:

Time of feeding	Pup 1	Pup 2	Pup 3	Notes:
8:00 am	Team #1	Team #1	Team #1	woke up pups to feed; pup #2 would not eat
12:00 noon				
4:00 pm				
8:00 pm				
12:00 midnight				
4:00 am				

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seal rescue 2

Some things to think about as you plan:

- For their own safety, harbor seal pups must be transported in cages so that they don't wriggle around and hurt themselves. What size and type of cage should be sent in the van to pick up the stranded seal?
- Do people who work with animals need any special immunizations?
- What sort of clothes should workers wear?
- How will you keep the baby seals clean?

What do seal pups eat?

Young seals are fed a special nutrient-rich formula. As they get older and begin to gain weight, they are changed over from being bottle-fed to a diet of whole fish.

********** SEAL FORMULA RECIPE **********

warm water	500 ml
fish	500 grams
lecithin	10 ml (powdered blending agent)
corn oil	10 ml

Mix ingredients thoroughly in an electric blender.

Makes 1 liter of formula (1,000 ml)

****

If each seal needs 200 ml of formula per feeding, how many seal pups can be fed with one batch of the basic recipe?

How many ml of formula will you need to feed one pup for 24 hours? How many for three pups?

Make a shopping list of ingredients you will need to feed all three of the orphaned seals for 24 hours.

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National Geographic World (for young readers)
P.O. Box 2330, Washington, DC 20013

Ranger Rick, publication of the National Wildlife Federation
1412 16th St., N.W., Washington, DC 20036

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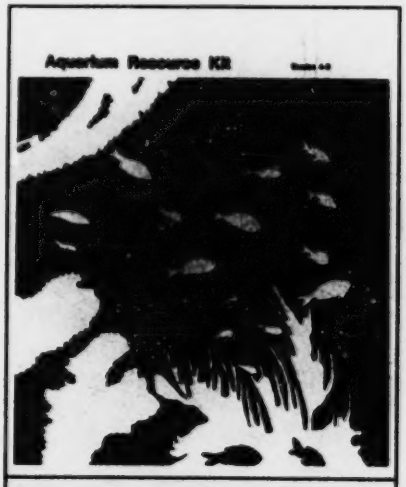

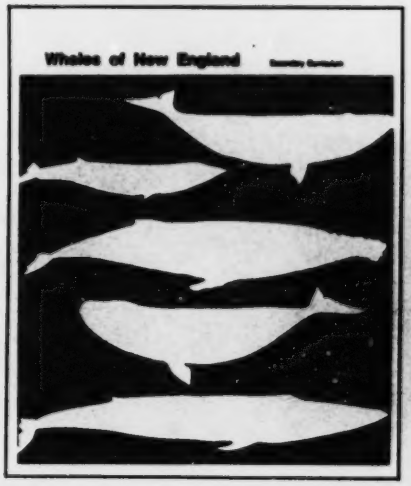

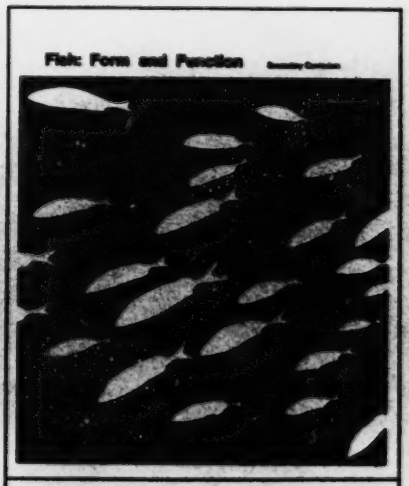

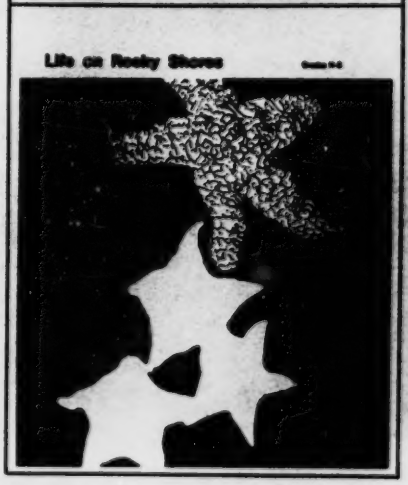

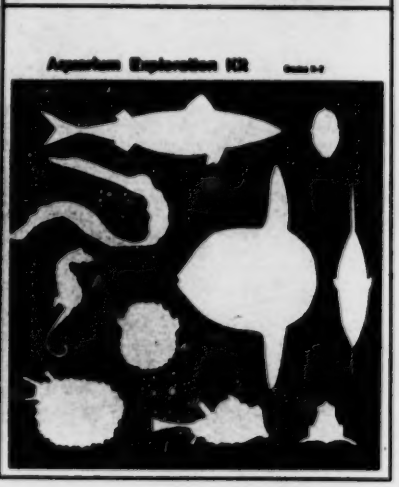

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